

REMARKS

Claims 1-11 are now pending in the application. Applicant attempted to better understand the Examiner's interpretation of the relied upon reference, but his request for an interview was denied by the Examiner. Nonetheless, Application has set forth below to clarify the distinctions between this reference and the present invention. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-2, 5, and 7-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Roberts (U.S. Pat. No. 5,963,312). This rejection is respectfully traversed.

Applicant's invention is directed generally to a method for isolating faults in an optical path of an optical network through the use of partial regenerators. Applicant's claimed invention detects the error rate of a baseline signal traversing through the designated path of the optical network. To isolate fault locations along the path, a dither control signal is then introduced into the optical signals at various points along the optical path. Specifically, Claim 1 recites "dithering the optical signal by varying an amplitude of the optical signal at two or more of said plurality of partial regenerators" in combination with the other elements of the claim. By monitoring the error rate of the optical signal at the egress point of the network, the occurrence and/or location of a fault may be isolated within the network. In this way, optical signal may remain in the optical domain.

Roberts is similarly directed to a system for locating sources of degradation along an optical path. However, Roberts fails to teach or suggest selectively dithering an optical data signal at various points along an optical path through the use of partial regenerators as a technique for isolating faults in the optical path.

In response to Applicant's arguments, the Examiner asserts that one skilled in the art would have incorporated a partial regenerator into the system disclosed by Roberts. By "system", Applicant is unclear as to whether the Examiner means an optical transmission system having a transmitter 1, a series of optical elements 2, and a receiver 3; or a system for locating sources of degradation. In the case of the latter, there are no teachings in Roberts as to how a partial regenerator might be used to isolate faults. Rather than introducing a control signal at different points along the path, Roberts teaches inserting a test pattern signal at an ingress of an optical path and then monitoring at different points along the path as shown in Figure 1. To the extent that Roberts contemplates introducing a test signal at different points along the path, it discloses the insertion of an additional transmitter 81 as shown in Figure 8. In either case, the Roberts' approach requires more equipment (i.e., at each point) and is more expensive than Applicant's claimed approach. Moreover, Roberts does not contemplate the use of partial regenerators as a means for introducing a control signal as recited in Applicant's claimed invention.

Citing col. 7, lines 35-36, the Examiner also asserts that Roberts teaches introducing a dither control signal into the optical signal at two or more optical elements. Contrary to the Examiner's assertion, this portion of Roberts merely teaches remedial actions which may be taken once a fault is located. One proposed remedial action is

adjusting the gain of an optical amplifier. Therefore, adjusting the gain of the signal is not for purposes of isolating a fault nor is doing so suggested by Roberts.

In sum, Roberts fails to teach or suggest selectively dithering an optical data signal at various points along an optical path through the use of partial regenerators as a technique for isolating faults in the optical path. Therefore, it is respectfully submitted that Claim 1, along with claims depending therefrom, defines patentable subject matter over Roberts.

Applicant notes that independent Claim 8 recite similar subject matter, and thus should be allowable, along with claims depending therefrom, for the same reasons as Claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: 

Timothy D. MacIntyre
Reg. No. 42,824

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

TDM/mas